CHEMISTRY.

78. *Odour of Musk.*—M. **Bley** has found that the golden sulphuret of antimony entirely deprives musk of its odour. The kermes mineral converts the peculiar odour of musk into an alliaceous one. This last may be important in a medico-legal point of view. Sulphur alone does not produce any changes.

79. *Ilicine.*—At a meeting of the Royal Academy of Sciences of Paris, on the 23d of May last, M. **Deleschamps** announced that he had succeeded in obtaining a new vegetable matter from the bark of the holley, to which he had given the name of ilicine, and which may be substituted for quinine in the treatment of intermittent fevers.

80. *Analysis of Urinary Calculi.*—The Medical and Physical Society of Calcutta have adopted the excellent plan of printing minutes of their monthly meetings, with an abstract of the papers read, and sending it to their members and correspondents. We have been favoured by their learned secretary, W. **Twining**, Esq. who is known to our readers by his excellent papers on ophthalmology, with the minutes of their meeting of May last. We find in this the analysis of ten calculi by Mr. Twining. Of these, five consisted principally of lithic acid and lithate of ammonia—two of oxalate of lime—two of oxalate of lime with minute nuclei of lithic acid—one had a lithic acid centre and phosphate of lime exterior.

Mr. Burnard sent to the Society thirteen calculi, five of which consisted of lithic acid and phosphates—four of lithates and lithic acid—one fusible—one fusible and oxalate of lime with a trace of lithic acid—one oxalate of lime.

Mr. Brett presented seven calculi, four of which were composed of lithic acid and lithate of ammonia, with more or less of triple phosphate exterior—two of oxalate of lime with lithic acid nuclei—and one alternating, composed of lithic acid nucleus, thin lamina of oxalate of lime, then lithate of ammonia, and exterior of compact lithic acid.

"As far as the analysis of the calculi now before the Society will enable us to judge," says Mr. Twining, "the urinary calculi of natives of India, appear to be subject to the same laws in respect to composition and formation, as obtain among Europeans in our own climate. Lithic acid, and lithate of ammonia, predominate in the calculi that have been yet collected in India; and we observe, that lithic acid, or oxalate of lime, are the most common nuclei of urinary calculi amongst natives. Whether the deposition of these substances, originally depend on some local disease of the kidneys and urinary secretion, or on constitutional disorder, the lithates and oxalates appear to coalesce most readily so as to form the nuclei of calculi. Whereas the morbid excess of the phosphates, though frequently existing in the state of fine white powder, or white sand, and in most constitutions readily deposited whenever a nucleus is afforded, are rarely found to constitute the centre of calculi. But when any extraneous body is lodged for a considerable time in the bladder, a deposit of the phosphates readily takes place in preference to the lithates or oxalate of lime; more especially if the foreign body be rough, and the bladder in a state of irritation. After the deposit of those substances, lithates and oxalate of lime has gone on for some time, it appears to cease; but the requisites to form concretions of the phosphates existing, namely, nucleus and irritation, the exterior of many large urinary calculi are composed of those substances, which rarely form the nucleus."

MISCELLANEOUS.

81. *On Gelatine as an article of Nutriment.*—The discovery of M. D'Arcet, member of the Institute, of the means of preparing the gelatinous matter of bones, so as to form a cheap and wholesome article of food, has excited great attention in Paris. More than two years have elapsed since the discovery, and

the system of M. D'Arcet has been adopted in several of the hospitals, and in the *Maison de Refuge pour l'Extinction de la Mendicité* of M. de Belleyme. The gelatine has also been used in making sea-biscuits, which were used by the troops during the late expedition against Algiers. The mode of preparing both the gelatine and the biscuits is minutely laid down in the pamphlets published by M. D'Arcet. These experiments had invariably been attended with success; but on the 6th of June, M. Donné, a young medical student, communicated to the Royal Academy of Sciences at Paris, some remarks tending to throw a doubt on the subject. He stated, that being deeply impressed with the importance (particularly to the lower classes) of ascertaining whether the gelatine did really possess the nutritive qualities attributed to it by M. D'Arcet, he resolved to go through a series of personal experiments on the subject. With this view, recollecting that ten *grammes* of dry gelatine were stated to be equivalent to half a litre (about two basins) of the best meat broth, he began by taking that quantity every morning with three ounces of bread, and gradually increased the quantity up to fifty grammes, which constituted his sole nourishment up to six o'clock every day; the gelatine was differently flavoured, so as to prevent its exciting any feeling of nausea or disgust. During the six days which this experiment lasted, M. Donné experienced a constant sensation of sinking and feebleness, and on the sixth day found that he had lost two pounds weight. The next week he substituted ordinary meat broth for the gelatine, taking a litre and a half (about five or six bowls,) and from four to five ounces of bread daily; during this week he experienced no sensation of feebleness, and at the end of it had regained a pound and a half of his lost weight. At the same time M. Donné tried similar experiments on two dogs, giving the one, gelatine mixed with a little bread, and offering the other nothing but simple gelatine. The former at first refused it, but at length ate daily as much as was equivalent to twelve or fifteen half litres of good broth. On the sixth day the dog had lost four ounces in weight, and was so voracious that he even greedily devoured some white lead prepared for cleaning plate, and during the second week totally refused gelatine, living only on about an ounce and a half of bread which was given him per day. He ultimately terminated the experiment by climbing to a great height, and taking possession of a quantity of boiled beef which was supposed to be out of his reach. The other dog could not be prevailed on to touch the gelatine, even after being for five days totally without food. M. Donné, therefore, considered it cruel to pursue the experiment further, and gave him his usual food. From these circumstances, M. Donné was induced to doubt the nutritive qualities of gelatine, and begged the Academy to appoint a committee to investigate the subject, which was accordingly done. At the succeeding meeting (13th June) M. D'Arcet addressed some observations to the Academy on the subject alluded to by M. Donné; he stated that butchers' meat contained, on an average, in every 100 lbs.—Dry meat, 24 lbs.; water, 61; bone, 15, total, 100 lbs. Bones contain on an average—Earthy substance, 60 lbs.; gelatine, 30; fat, 10; total, 100 lbs.

From this calculation it is evident that the 15 lbs. of bone contained in every 100 lbs. of meat would furnish 40-100 of their weight, or 6 lbs. of animal substance, so that 100 lbs. of meat, which now furnish but 24 lbs. of dry meat, might, by rendering the gelatine and fat of the bones available, supply thirty, or in other words, four oxen would furnish as much alimentary substance as is now obtained from five. With respect to the nutritive and salubrious qualities of gelatine, he remarked, that the committee appointed by the Faculty of Medicine, consisting of MM. Le Roux, Dubois, Pelletan, Dumeril, and Vauquelin, after having given gelatine soup to forty patients and others, during a period of three months, came to the conclusions:—1. That the use of gelatine was both an amelioration, and a source of economy in the alimentary system. 2. That gelatine soup is at least as palatable as the ordinary hospital soup; and 3. That gelatine is nourishing, easy of digestion, and wholesome, and cannot in any manner, be productive of injurious effects on the animal economy. The apparatus in the hospital of St. Louis is capable of preparing nine hundred soups per day;

it has been in use twenty months, and has supplied 550,800 portions of gelatinous food. Numerous reports have been made on the subject to the general administration cf the hospitals, all of which agree in stating that the change in the mode of nourishment is a decided improvement; that the convalescent patients acquire strength much more rapidly than before; that it is a source of economy highly important to the poor; that part of the meat formerly employed in making soup may now be given to the patients, either roasted or in other forms; and finally, they all recommend the adoption of the system of gelatinous nourishment in all similar establishments. At the Hôtel Dieu, 443,650 rations of gelatine have been furnished in fifteen months and a half; and six reports have been made, all of which are equally favourable with those above referred to. They state particularly that since gelatine has been employed, thirty killogrammes of roast meat may be given to the patients daily, without reducing the quality of the soup at all below its former standard.

When M. D'Arcet had concluded his remarks, M. Gay Lussac animadverted in strong terms on the injustice and insufficiency of the mode of experiments adopted by M. Donné, which he characterized as wholly inconclusive, although calculated to produce a most injurious effect on the public mind, which is always easily impressed with the idea that the poor are neglected, particularly in hospitals. He reminded the Academy that it was well known that no single substance was alone sufficient to support animal nature; that animals fed on sugar alone had died from inanition; yet it would not be pretended that sugar is destitute of nutritive qualities; and though the nutritive qualities of potatoes, taken with other food, are universally known, a dog fed wholly on that vegetable dies in six weeks; whereas M. Donné wishes it to be supposed that because two dogs refused to live upon gelatine, administered alone, we know not how, and because M. Donné himself grew thin on a sudden adoption of simple gelatine diet, the adjunction of gelatine, as an addition to, and taken in conjunction with animal food, is wholly without advantage. On the 20th of June, M. Donné replied to M. Gay Lussac, by saying that his sole object in proposing the question was to have it fully and fairly investigated; since if it can be established that gelatine does possess the nutritive qualities ascribed to it, the advantage to the poorer classes will be immense; whereas, on the other hand, should they be induced to employ the bones as a means of nutriment, when the fact may turn out to be that the gelatine is not nutritious, their condition is rendered more deplorable than before. In conclusion, he said that he rendered full justice to the active and pure philanthropy of M. D'Arcet, which had induced him to make the greatest sacrifices both of time and money, in order to bring the gelatinous system to perfection.—*The Journal of the Royal Institution of Great Britain, August*, 1831.

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82. *Cholera.*—We had intended in the present No. to have given a summary of the present state of our knowledge in relation to this disease, and for this we have ample materials, the press having been extremely prolific in accounts of the progress and speculations on the nature and most successful mode of treating this scourge. We postponed it however for the purpose of making room for a review of a work which the profession have been anxiously expecting, and the sheets of which, as far as printed, we were favoured by the publishers with a copy of. After this review, however, was actually in type, the completion of the work having been unexpectedly delayed, we were compelled to postpone the review. This occurred at too late a period to permit us to arrange, in proper form for publication, our notes on cholera; and we can only at present state, that that disease was extending its ravages at the latest dates, and that the most contradictory statements are given respecting every point relating to its mode of propagation, nature, and best method of treatment. From this mass of conflicting testimony, we shall in our next No. endeavour to present as clear a view of the subject as a looker-on, who has no preconceived notions in relation to the subject, may take, after a careful examination of the statements on both sides.